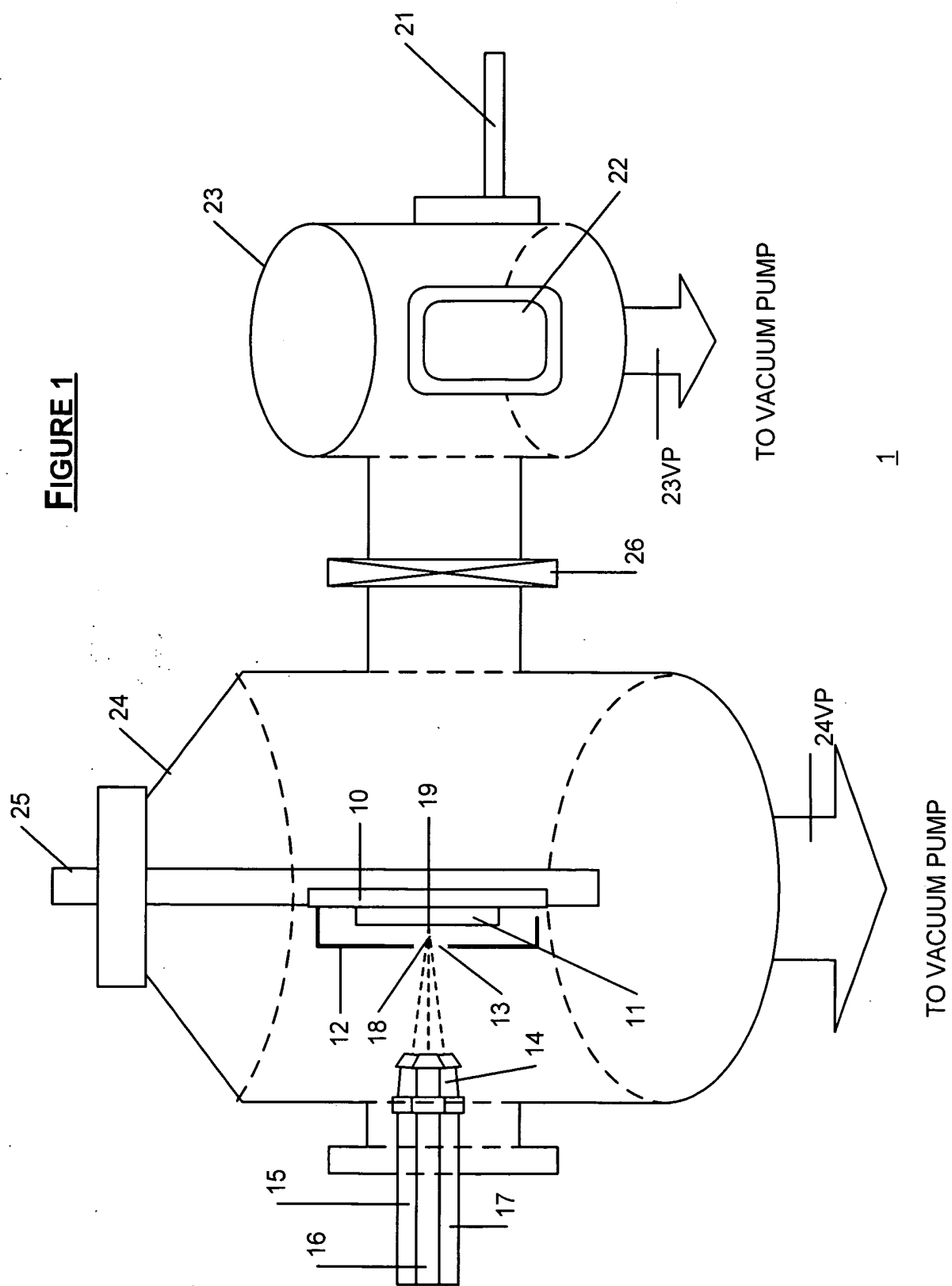
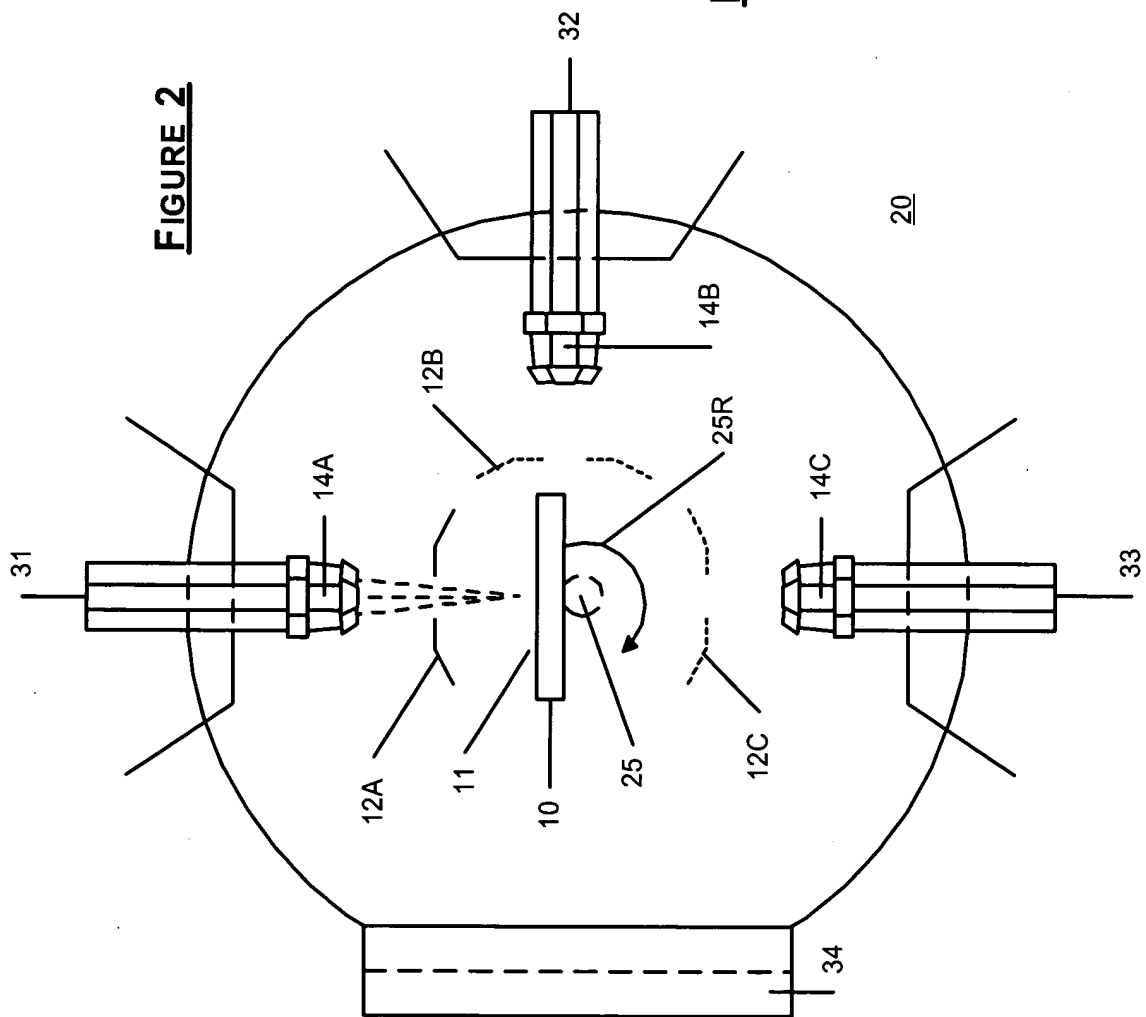
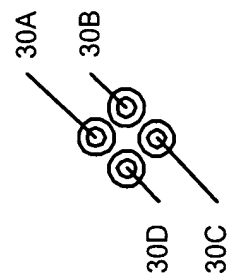


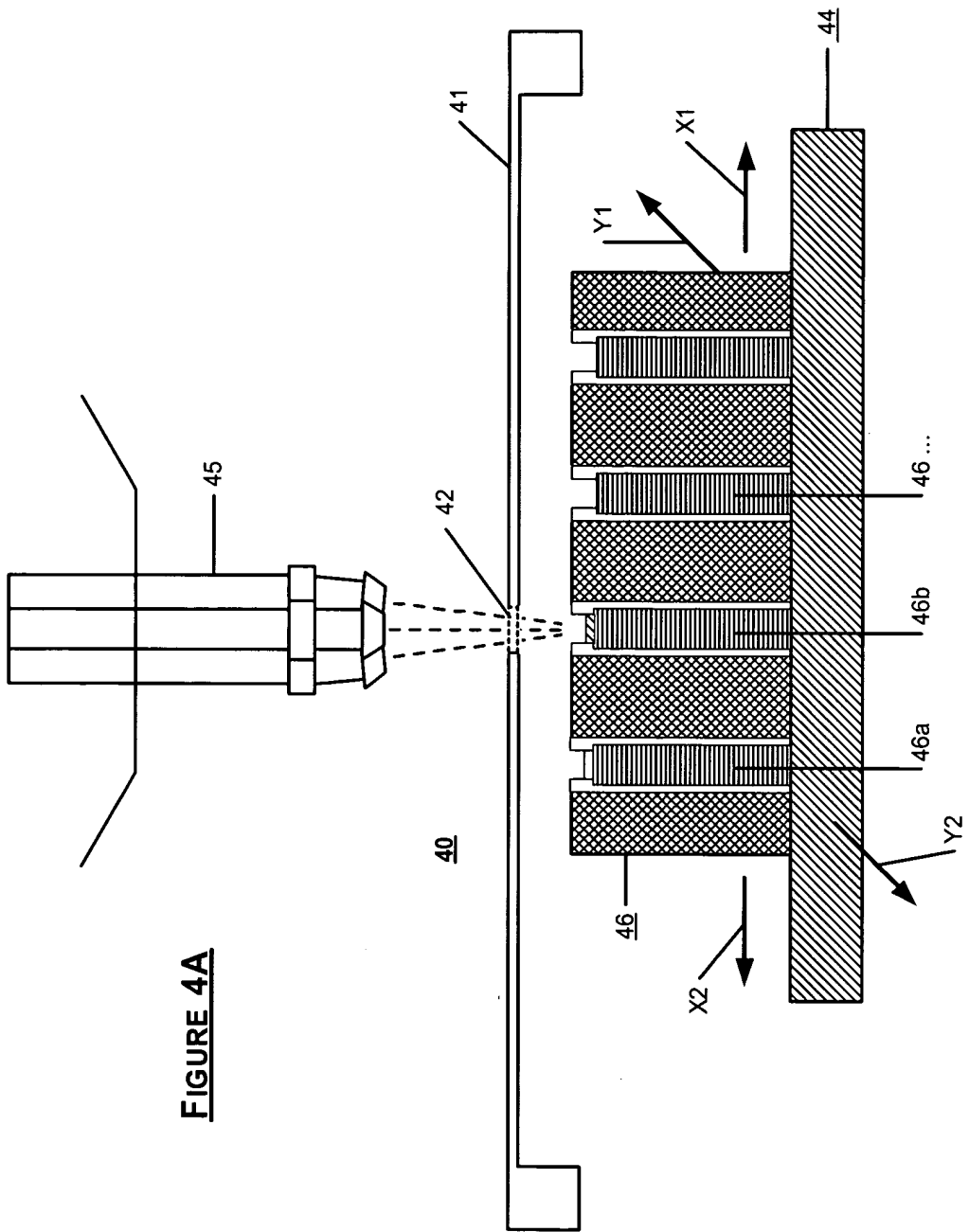
## FIGURE 1



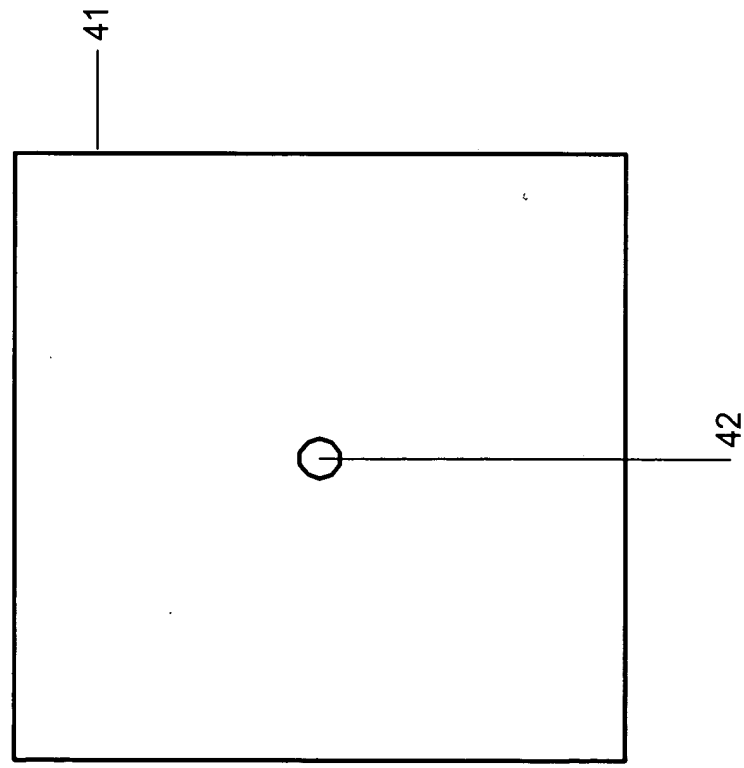


**FIGURE 3**

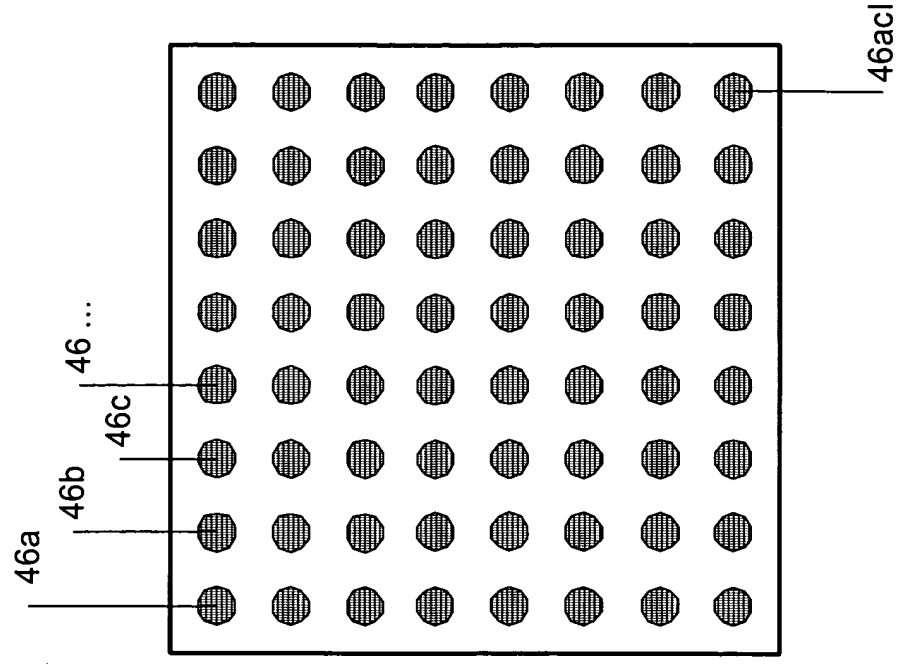




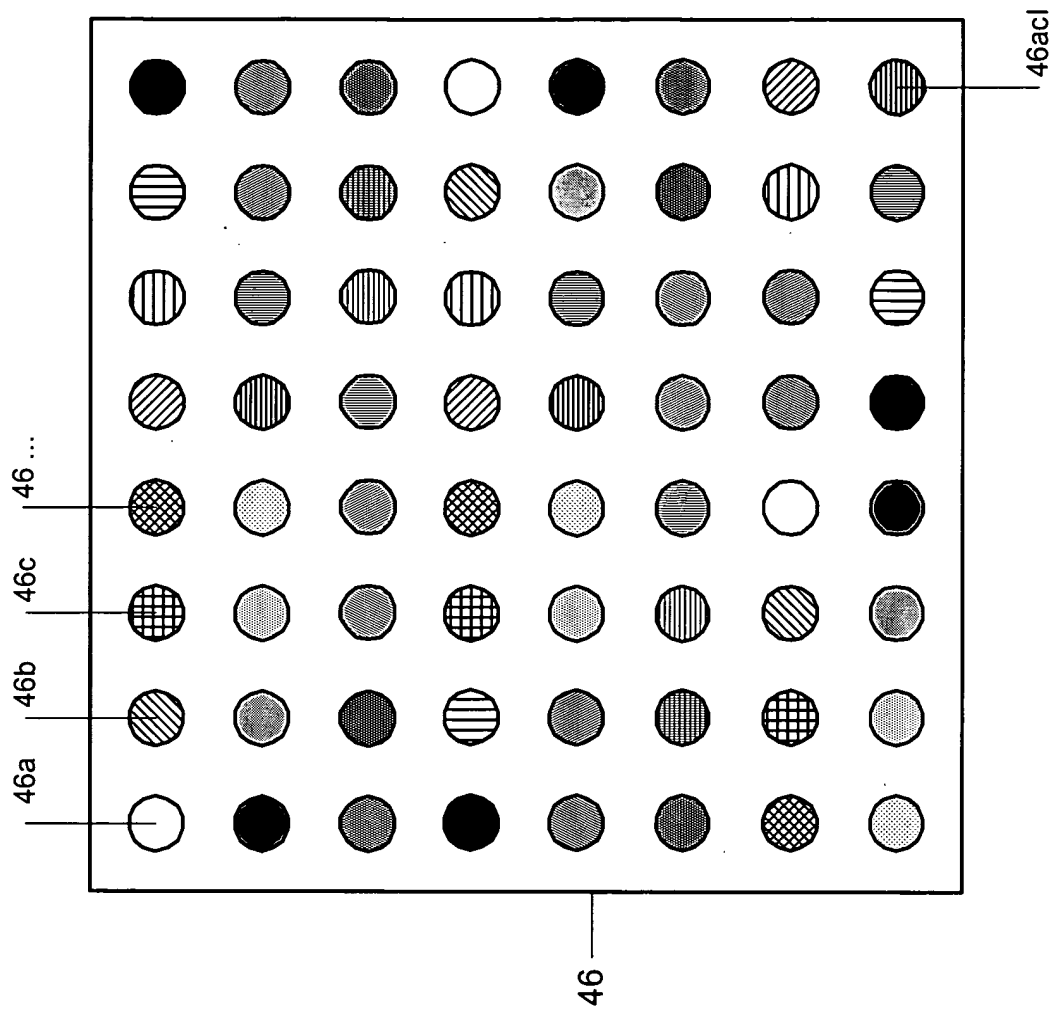
**FIGURE 4B**



**FIGURE 4C**



**FIGURE 4D**



**Figure 5A**

Substrate Position #	# of Cycles	Slap #	Cluster #	Gas Pressure	Deposition Delay	Deposition Time	M11	M12	M13	M14	M21	M22	M23	M24	M31	M32	M33	M34
11	1	1	1	10	60	1000	400	450	300	0	0	0	0	0	0	0	0	0
12	1	1	1	10	60	900	380	435	275	0	0	0	0	0	0	0	0	0
13	1	1	1	10	60	850	360	420	250	0	0	0	0	0	0	0	0	0
14	1	1	1	10	60	800	340	405	225	0	0	0	0	0	0	0	0	0
15	1	1	1	10	60	1100	320	390	200	0	0	0	0	0	0	0	0	0
16	1	1	1	10	60	1200	300	375	175	20	0	0	0	0	0	0	0	0
17	1	1	1	10	60	1000	280	360	150	35	0	0	0	0	0	0	0	0
18	1	1	1	10	60	1050	260	345	125	50	0	0	0	0	0	0	0	0
21	1	1	1	10	60	1000	240	330	100	65	0	0	0	0	0	0	0	0
22	1	1	1	10	60	875	220	315	75	80	0	0	0	0	0	0	0	0
23	1	1	1	10	60	975	200	300	50	95	0	0	0	0	0	0	0	0
24	1	1	1	10	60	877	180	285	25	110	0	0	0	0	0	0	0	0
25	1	1	1	10	60	955	160	270	0	125	0	0	0	0	0	0	0	0
26	1	1	1	10	60	999	140	255	0	140	0	0	0	0	0	0	0	0
27	1	1	1	10	60	709	120	240	0	155	0	0	0	0	0	0	0	0
28	1	1	1	10	60	873	100	225	0	170	0	0	0	0	0	0	0	0
31	1	1	2	7.5	45	400	0	0	0	0	10	300	0	300	0	0	0	0
32	1	1	2	7.5	45	2887	0	0	0	0	14	300	6	280	0	0	0	0
33	1	1	2	7.5	45	1421	0	0	0	0	18	300	12	260	0	0	0	0
34	1	1	2	7.5	45	631	0	0	0	0	22	300	18	240	0	0	0	0
36	1	1	2	7.5	45	1736	0	0	0	0	26	300	24	220	0	0	0	0
37	1	1	2	7.5	45	3422	0	0	0	0	30	300	30	200	0	0	0	0
38	1	1	2	7.5	45	4922	0	0	0	0	34	300	36	180	0	0	0	0
41	1	1	2	7.5	45	2741	0	0	0	0	42	300	48	140	0	0	0	0
42	1	1	2	7.5	45	2566	0	0	0	0	46	300	54	120	0	0	0	0
43	1	1	2	7.5	45	1889	0	0	0	0	50	300	60	100	0	0	0	0
44	1	1	2	7.5	45	505	0	0	0	0	54	300	66	80	0	0	0	0
45	1	1	2	7.5	45	3114	0	0	0	0	62	300	72	60	0	0	0	0
46	1	1	2	7.5	45	2754	0	0	0	0	68	300	84	20	0	0	0	0
47	1	1	2	7.5	45	2583	0	0	0	0	70	300	90	0	0	0	0	0
48	1	1	2	7.5	45	2869	0	0	0	0	0	0	0	0	45	43	21	700
51	1	1	3	5	45	4037	0	0	0	0	0	0	0	0	90	43	21	656
52	1	1	3	5	45	4957	0	0	0	0	0	0	0	0	100	23	45	812
53	1	1	3	5	45	1	0	0	0	0	0	0	0	0	0	0	0	0
54	1	1	3	6	45	3218	0	0	0	0	0	0	0	0	134	23	45	568
55	1	1	3	5	45	3655	0	0	0	0	0	0	0	0	102	10	50	524
56	1	1	3	5	45	716	0	0	0	0	0	0	0	0	188	10	56	480
57	1	1	3	5	45	4028	0	0	0	0	0	0	0	0	217	43	21	436
58	1	1	3	5	45	3397	0	0	0	0	0	0	0	0	245	43	21	392

↓ 5A

↓ 5A







**Figure 5C**

[illegible]

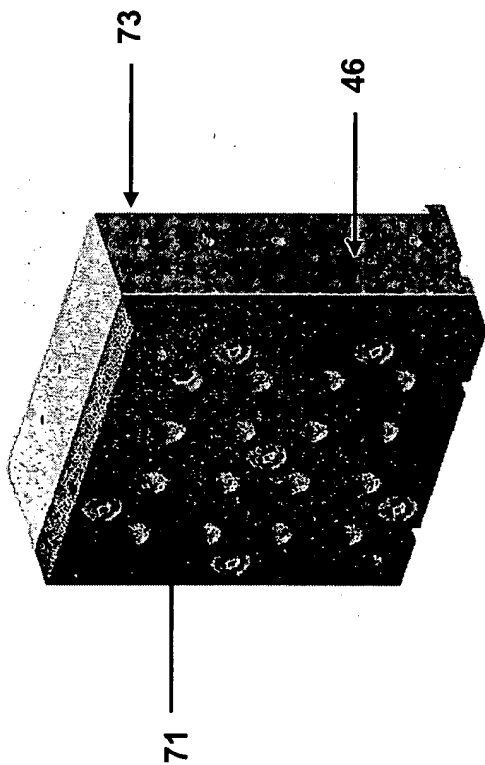
**Figure 6A**

Composition			Experimental Single Gun Rate (A/s <sup>2</sup> W)			Total Power (W)		Total Rate (A/s)		Calibration Factor			Calibrated Deposition Power (W)		
Pt	W	V	Pt	W	V	PtW	PtV	PtWV	PtWV	Pt	W	V	Pt	W	V
60	20	20	1.16E-02	1.10E-02	5.26E-03	2.00E+02	1.87	0.794	1.058	1.077	77	37	70		
40	20	40	1.16E-02	1.10E-02	5.26E-03	2.00E+02	1.58	0.794	1.058	1.077	44	31	120		
40	40	20	1.16E-02	1.10E-02	5.26E-03	2.00E+02	1.88	0.794	1.058	1.077	51	72	89		
20	60	20	1.16E-02	1.10E-02	5.26E-03	2.00E+02	1.85	0.794	1.058	1.077	25	107	68		
20	40	40	1.16E-02	1.10E-02	5.26E-03	2.00E+02	1.57	0.794	1.058	1.077	22	62	118		
20	20	60	1.16E-02	1.10E-02	5.26E-03	2.00E+02	1.36	0.794	1.058	1.077	19	27	156		
Calibration Processes										Deposition Parameters					

## Figure 6B

EDAX Analysis of Films

Alloy	Power Watts	Composition			EDAX Composition			Comments
		Pt	W	V	Pt	W	V	
1	100	60.0%	20.0%	20.0%	61.2%	17.1%	20.7%	Reasonable Agreement
1	200	60.0%	20.0%	20.0%	61.4%	17.3%	21.4%	Reasonable Agreement
2	100	40.0%	20.0%	40.0%	42.7%	19.0%	38.3%	Reasonable Agreement
2	200	40.0%	20.0%	40.0%	41.6%	19.0%	39.4%	Reasonable Agreement
3	100	40.0%	40.0%	20.0%	45.4%	35.5%	19.1%	Fair Agreement - within limits of EDAX
3	200	40.0%	40.0%	20.0%	49.7%	27.2%	23.2%	Poor Agreement - may be issue of background subtraction
4	100	20.0%	60.0%	20.0%	21.8%	55.9%	22.4%	Reasonable Agreement
4	200	20.0%	60.0%	20.0%	24.2%	49.3%	26.8%	Poor Agreement - definite issues with background subtraction
5	100	20.0%	40.0%	40.0%	16.5%	40.8%	42.7%	Reasonable Agreement
5	200	20.0%	40.0%	40.0%	25.7%	34.4%	39.8%	Fair Agreement - within limits of EDAX
6	100	20.0%	40.0%	40.0%	18.3%	22.0%	59.8%	Reasonable Agreement
6	200	20.0%	20.0%	60.0%	23.0%	20.4%	56.6%	Reasonable Agreement



**Figure 7A**

**Figure 7B**

